

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

September 9, 2003

Date of Deposit

Richard E. Stanley, Jr.

Name of Applicant, Assignee or  
Registered Representative

  
Signature

Sep. 9, 2003

Date of Signature

Our Case No.: 4865-162

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

David E. Daws et al.

Serial No.: pending

Filing Date: September 6, 2003

For: **HARDWARE ASSEMBLY FOR  
CVI/CVD PROCESSES**

Examiner:

Group Art Unit No.:

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed below and on the attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

The references now cited are the following:

<b>Patent No.</b>	<b>Date</b>	<b>Name</b>
3,895,084	July 15, 1975	Bauer
3,991,248	November 9, 1976	Bauer
4,029,829	May 14, 1977	Weaver et al.
4,134,360	January 16, 1979	Fisher et al.
4,212,906	July 15, 1980	Fisher et al.
4,369,031	January 18, 1983	Goldman et al.
4,457,967	July 3, 1984	Chaireire et al.
4,580,524	April 8, 1986	Lackey, Jr. et al.
4,895,108	January 23, 1990	Caputo et al.
5,190,913	March 2, 1993	Higashiyama et al.
5,250,323	October 5, 1993	Miyazaki
5,252,134	October 12, 1993	Stauffer
5,256,162	October 26, 1993	Drowley et al.
5,262,356	November 16, 1993	Fujii
5,269,847	December 14, 1993	Anderson et al.
5,281,295	January 25, 1994	Maeda et al.
5,322,568	June 21, 1994	Ishihara et al.
5,348,774	September 20, 1994	Golecki et al.
5,352,484	October 4, 1994	Bernard et al.
5,362,228	November 8, 1994	Vaudel
5,391,232	February 21, 1995	Kanai et al.
5,439,715	August 8, 1995	Okamura et al.
5,470,390	November 28, 1995	Nishikawa et al.
5,480,678	January 2, 1996	Rudolph et al.
5,503,254	April 2, 1996	Fisher et al.
5,853,485	December 29, 1998	Rudolph et al.
5,900,297	May 4, 1999	Rudolph et al.
5,904,957	May 18, 1999	Christin et al.

<b>FOREIGN PATENTS</b>		
<b>Document No.</b>	<b>Date</b>	<b>Country</b>
EP 0 223 642 B1	28 December 1988	European Patent Office
EP 0 548 944 A1	30 June 1992	European Patent Office
EP 0 592 239 A1	09 April 1992	European Patent Office
WO 87/04733	13 August 1987	PCT
WO 88/10245	29 December 1988	PCT
DE 39 22 539 A1	10 January 1991	Germany
JP 4-108680	9 April 1992	Japan
JP 62-166353	18 January 1986	Japan
JP 63-295476	1 December 1988	Japan

OTHER ART
W.J. Lackey, <i>Review, Status, and Future of the Chemical Vapor Infiltration Process for Fabrication of Fiber-Reinforced Ceramic Composites</i> , Ceram, Eng. Sci, Proc., No. 10 (7-8), p. 577-584, 1989.
A.J. Caputo, W.J. Lackey, and D.P. Stinton, <i>Development of a New, Faster Process for the Fabrication of Ceramic Fiber-Reinforced Ceramic Composites by Chemical Vapor Infiltration</i> , Oak Ridge National Laboratory, p. 694-705.
A.J. Caputo and W.J. Lackey, <i>Fabrication of Fiber-Reinforced Ceramic Composites by Chemical Vapor Infiltration</i> , Oak Ridge National Laboratory, pgs. 1-14, 1984.
Donald R. Messier, <i>Improved Fiber-Reinforced SiC Composites Fabricated by Chemical Vapor Infiltration</i> , D.P. Stinton, A.J. Caputo, R.A. Lowden, and T.M. Besmann, The American Ceramic Society, Inc., p. 982-989, 1986.
O. Vohler, P.L. Reiser and E. Sperk, <i>Deposition of Pyrolytic Carbon in the Pores of Graphite Bodies</i> , p. 397-405, Vol. 6, Carbon 1968.
M.L. Lieberman and H.O. Pierson, <i>Effect of Gas Phase Conditions on Resultant Matrix Pyrocarbons in Carbon/Carbon Composites</i> , pgs. 233-241, Vol. 12, Carbon 1974.
T.D. Gulden, J.L. Kaae, and K.P. Norton, <i>Forced-Flow Thermal-Gradient Chemical Vapor Infiltration (CVI) of Ceramic Matrix Composites</i> , p. 546-552, Electrochemical Society, 1990.
S. Kimura, N. Takase, S. Kasuya, and E. Yasuda, <i>Fracture Behaviour of C Fiber/CVD C Composite</i> , Research Laboratory of Engineering Materials, p. 617-620, 1980.
Alan S. Brown, <i>Faster Production Processes Cut CCC Costs</i> , Aerospace America, pgs. 18-19, Nov. 1994.
Grafoil, <i>Introduction to Grafoil</i> , Technical Bulletin, Union Carbide Corporation.
W.V. Kotlensky, <i>Deposition of Pyrolytic Carbon in Porous Solids</i> , Chemistry and Physics of Carbon, pgs. 173-262, Vol. 9, 1973.
Morton L. Lieberman, Richard M. Curlee, Floyd H. Braaten, and George T. Noles, <i>CVD/PAN Felt Carbon/Carbon Composites</i> , Composite Materials, pgs. 337-348, Vol. 9, October 1975.
W.V. Kotlensky, <i>A Review of CVD Carbon Infiltration of Porous Substrates</i> , Super-Temp Company, p. 257-265.14.


In accordance with 37 C.F.R. § 1.97(g),(h), this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Information Disclosure Statement is being filed prior to the receipt of the first Official Action reflecting an examination on the merits and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these material, the Commissioner is hereby authorized to deduct said fees from Brinks Hofer Gilson & Lione Deposit Account No. 23-1925. A duplicate copy of this document is enclosed.

This application is a divisional application of U.S. Serial No. 09/933,465, filed August 20, 2001 and is relied upon for an earlier filing dated under 35 U.S.C. § 120. In accordance with Rule 37 C.F.R. § 1.98(d) only copies of documents not previously cited and submitted to the Patent and Trademark Office in the prior application Serial No. 09/933,465 are enclosed for the convenience of the Examiner.

Applicant(s) respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

  
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FORM PTO-1449	SERIAL NO.	CASE NO. 4865-162
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE September 6, 2003	GROUP ART UNIT 1762
(use several sheets if necessary)		APPLICANT(S): David E. Daws, et al.

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	A1	3,895,084	07-15-75	Bauer		
	A2	3,991,248	11-09-76	Bauer		
	A3	4,029,829	05-14-77	Weaver et al.		
	A4	4,134,360	01-16-79	Fisher et al.		
	A5	4,212,906	07-15-80	Fisher et al.		
	A6	4,369,031	01-18-83	Goldman et al.		
	A7	4,457,967	07-03-84	Chareire et al.		
	A8	4,580,524	04-08-86	Lackey, Jr. et al.		
	A9	4,895,108	01/23/90	Caputo et al.		
	A10	5,190,913	03-02-93	Higashiyama et al.		
	A11	5,250,323	10-05-93	Miyazaki		
	A12	5,252,134	10-12-93	Stauffer		
	A13	5,256,162	10-26-93	Drowley et al.		
	A14	5,262,356	11-16-93	Fuji		
	A15	5,269,847	12-14-93	Anderson et al.		
	A16	5,281,295	01-25-94	Maeda et al.		
	A17	5,322,568	06-21-94	Ishihara et al.		
	A18	5,348,774	09-20-94	Golecki		
	A19	5,352,484	10-4-94	Bernard et al.		
	A20	5,362,228	11-8-94	Vaudel		
	A21	5,391,232	02-21-95	Kanai et al.		
	A22	5,439,715	08-08-95	Okamura et al.		
	A23	5,470,390	11-28-95	Nishikawa et al.		
	A24	5,480,678	02-02-96	Rudolph et al.		
	A25	5,503,254	04-02-96	Fisher et al.		
	A26	5,853,485	12-29-98	Rudolph et al.		
	A27	5,900,297	05-04-99	Rudolph et al.		
	A28	5,904,957	05-18-99	Christin et al.		

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	A29	EP 0 223 642 B1	12-28-88	EPO		
	A30	EP 0 548 944 A1	06-30-92	EPO		
	A31	EP 0 592 239 A1	04-09-92	EPO		

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	SERIAL NO.	CASE NO. 4865-162
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## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	A32	WO 87/04733	8-13-87	PCT		
	A33	WO 88/10245	12-29-88	PCT		
	A34	DE 39 22 539 A1	01-10-91	Germany		
	A35	JP 4-108680	04-09-92	Japan		
	A36	JP 62-166353	01-18-86	Japan		
	A37	JP 63-295476	12-01-88	Japan		

EXAMINER INITIAL	OTHER ART – NON PATENT LITERATURE DOCUMENTS <small>(Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.</small>					
	A38	W.J. Lackey, <i>Review, Status, and Future of the Chemical Vapor Infiltration Process for Fabrication of Fiber-Reinforced Ceramic Composites</i> , Ceram, Eng. Sci, Proc., No. 10(7-8), pgs. 577-584, 1989.				
	A39	A.J. Caputo, W.J. Lackey, and D.P. Stinton, <i>Development of a New, Faster Process for the Fabrication of Ceramic Fiber-Reinforced Ceramic Composites by Chemical Vapor Infiltration</i> , Oak Ridge National Laboratory, pgs. 694-705.				
	A40	A.J. Caputo and W.J. Lackey, <i>Fabrication of Fiber-Reinforced Ceramic Composites by Chemical Vapor Infiltration</i> , Oak Ridge National Laboratory, pgs. 1-14, 1984.				
	A41	Donald R. Messier, <i>Improved Fiber-Reinforced SiC Composites Fabricated by Chemical Vapor Infiltration</i> , D.P. Stinton, A.J. Caputo, R.A. Lowden, and T.M. Besmann, The American Ceramic Society, Inc., pgs. 982-989, 1986.				
	A42	O. Vohler, P.L. Reiser and E. Sperk, <i>Deposition of Pyrolytic Carbon in the Pores of Graphite Bodies</i> , pgs. 397-405, Vol. 6, Carbon 1968.				
	A43	M.L. Lieberman and H.O. Pierson, <i>Effect of Gas Phase Conditions on Resultant Matriz Pyrocarbons in Carbon/Carbon Composites</i> , pgs. 233-241, Vol. 12, Carbon 1974.				
	A44	T.D. Gulden, J.L. Kaae, and K.P. Norton, <i>Forced-Flow Thermal-Gradient Chemical Vapor Infiltration (CVI) of Ceramic Matrix Composites</i> , pgs. 546-552, Electrochemical Society 1990.				
	A45	S. Kimura, N. Takase, S. Kasuya, and E. Yasuda, <i>Fracture Behaviour of C Fiber/CVD C Composite</i> , Research Laboratory of Engineering Materials, pgs. 617-620, 1980.				
	A46	Alan S. Brown, <i>Faster Production Processes Cut CCC Costs</i> , Aerospace America, pgs. 18-19, Nov. 1994.				
	A47	Grafoil, <i>Introduction to Grafoil</i> , Technical Bulletin, Union Carbide Corporation.				
	A48	W.V. Kotlensky, <i>Deposition of Pyrolytic Carbon in Porous Solids</i> , Chemistry and Physics of Carbon, pgs. 173-262, Vol. 9, 1973.				
	A49	Morton L. Lieberman, Richard M. Curlee, Floyd H. Braaten, and George T. Noles, <i>CVD/PAN Felt Carbon/Carbon Composites</i> , Composite Materials, pgs. 337-348, Vol 9. October 1975.				
	A50	W.V. Kotlensky, <i>A Review of CVD Carbon Infiltration of Porous Substrates</i> , Super-Temp Company, pgs.257-265.14.				

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